IN THE DRAWINGS

The attached sheet of drawings includes changes to Figures 3 and 5. This sheet, which includes Figures 3 and 5, replaces the original sheet including Figures 3 and 5.

Attachment: Replacement Sheets (2)

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

After entry of the foregoing amendment, Claims 23-67 are pending in the present application. The present amendment amends Figures 3 and 5; amends Claims 23, 25, 26, 28, 29, 31, 32, 37, 39, 40, 42, and 43; and adds new Claims 43-67. No new matter is added. Figures 3 and 5 are amended to replace the term "analog data" with "analog output". Support for amended Claims 23, 25, 26, 29, 31, 32, 37, 39, 40, and 43 is self-evident from those claims as previously presented. Support for amended Claims 28 and 42 and new Claims 43-64 is discussed below.

In the outstanding Office Action, Claims 23-42 were rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,373,611 to Farhan et al. (hereinafter "Farhan") in view of U.S. Patent No. 5,878,325 to Dail and U.S. Patent No. 6,144,665 to Karasawa. That rejection is respectfully traversed.

Initially, Applicant and Applicant's representatives thank Examiner Ryman for the courtesy of the interview conducted on July 7, 2005. During the interview, distinctions between embodiments of the present invention and the applied references were discussed. No formal agreement was reached. However, Examiner Ryman tentatively agreed that the applied references do not teach an optical distibution node ("ODN") controlled or monitored by an optically coupled head end. In addition, Examiner Ryman tentatively agreed that the applied references do not teach a multiplexer that converts a baseband digital signal into a serial data stream and, thereafter, multiplexes the serial data stream and additional data, e.g., framing data or data for bit error rate link performance testing. Each of the rejected independent claims is amended to reflect these distinctions.

For example, Claim 23 is amended to recite "a head end configured to be coupled to the optical distribution node via the fiber optic link, configured to control or monitor an operation of the optical distribution node based on the status data, and including a receiver";[1] and amended to recite "a multiplexer configured to convert the baseband digital signal into a serial data stream ~~format~~, and configured to multiplex the ~~baseband digital signal~~ serial data stream and the status data to create a combined digital signal".[2] Independent Claims 29 and 37 recite similar subject matter. The remaining rejected claims depend from Claims 23, 29, and 37.

In addition to reciting a head end configured to control or monitor an operation of an ODN based on received status data, each of Claims 23, 29, and 37 also recites that the status data represents an operational status of the ODN. The outstanding Office Action acknowledges that Farhan in view of Dail does not teach, amongst other claimed features, the claimed status data representing an operational status of the ODN; and cites Karasawa as curing this deficiency of Farhan in view of Dail.[3] However, even assuming *arguendo* that Karasawa teaches status data representing an operational status of the optical distribution node, Karasawa does not teach a head end controlling or monitoring an optically coupled ODN based on such status data.

Rather, in Karasawa, a control module 21 of a subscriber line terminal 20 sends warning collection instructions to optical network units 10. The control module 21 performs subscriber line terminal control operations according to the contents of the warnings subsequently collected from the optical network units 10.[4] The subscriber line terminal 20 is not a head end of a hybrid fiber/coax ("HFC") network. Thus, as noted during the interview, Karasawa does not teach a head end that controls or monitors an operation of an ODN.

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[1] For support, see Applicant's specification, page 9, lines 17-19.
[2] For support, see Applicant's specification, page 5, lines 5-11.
[3] Office Action, page 4/1/2005, page 4.
[4] Karasawa, col. 3, lines 43-50.

As further noted during the interview, Farhan and Karasawa address non-analagous arts. More particularly, Farhan addresses an HFC network. On the other hand, Karasawa addresses an asynchronous transfer mode ("ATM") network. In HFC networks, the head end serves as a distribution center, via fiber optic lines, for a plurality of ODN's; and each ODN serves as a distribution center, via coaxial cable, for a plurality of subscribers. In ATM networks, an optical network unit serves as a distribution center, via fiber optic lines, for a plurality of subscribers. Presently, ATM is only used for head end-to-head end and for head end-to-hub communications. Applicant respectfully submits that a skilled artisan would not consider the control relationship between an ATM network's optical network unit and subscriber line terminals in developing a control relationship between an HFC network's head end and ODN. Thus, in addition to failing to teach the claimed invention, the combination of Farhan and Karasawa appears to be improper.

Accordingly, for the above-stated reasons, Applicant respectfully requests that the rejection of Claims 23-42 under 35 U.S.C. 103(a) as unpatentable over Farhan in view of Dail and Karasawa be withdrawn.

New Claims 43-67 are added to claim the present invention in a more varied scope. New Claims 43-45 correspond to Claims 23, 25, and 28, but are directed to the features of the optical distribution node. New Claims 46-48 correspond to Claims 23, 26, and 28, but are directed to the features of the head end. New method Claims 49-51 correspond to Claims 37, 39, and 42, but are directed to the features of the optical distribution node. New method Claims 52-54 correspond to Claims 37, 40, and 42, but are directed to the features of the head end. New Claims 55-57 recite the deleted subject matter of Claims 25, 31, and 39. New Claims 58-61 are similar to Claims 55-57, but depend from Claims 43, 46, 49, and 52. New Claims 62-66 recite further features of the receiver of Claims 23, 29, 37, 46, and 52.[5] New

[5] For support, see Applicant's specification, page 5, line 29 – page 6, line 10; see also Applicant's Figure 3.

Claim 67 recites a bit rate for the invention of Claim 29. Applicant submits that Claims 43-67 patentably define over the applied references for at least the above-stated reasons supporting patentability of the rejected independent claims.

Applicant notes that Claims 28, 42, 45, 48, 51, 54, and 67 are directed to bit rate. Applicant's specification provides support for bit rates of up to approximately 1 gigabit for the first embodiment;[6] and up to approximately 5 gigabits for the alternative embodiment.[7] Independent apparatus Claims 23, 43, and 46 are directed to the first embodiment. Consequently, their corresponding dependent Claims 28, 45, and 48 recite bit rates of up to approximately 1 gigabit. Independent apparatus Claim 29 is directed to the alternative embodiment. Consequently, its corresponding dependent Claim 67 recites a bit rate of up to approximately 5 gigabits. Independent method Claims 42, 49, and 52 are directed to the first and alternative embodiments. Consequently, their corresponding dependent Claims 42, 51, and 54 recite bit rates of up to approximately 5 gigabits.

[6] Applicant's specification, page 5, line 14.
[7] Applicant's specification, page 8, line 16.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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